

We claim:

1. An automatic injection device arranged to inject a fluid into a patient comprising:
  - a pump arranged to pump fluid in accordance with commands;
  - a delivery unit receiving said fluid and delivering the same to the patient;
  - a controller having a memory used to store a plurality of profiles defining operational parameters for the delivery of the fluid; and
  - a selector used to select said operational parameters.
2. The device of claim 1 wherein said profiles define several modes of operation, each mode being related to a rate of flow of said fluid as it is delivered to the patient.
3. The device of claim 1 wherein said delivery unit has physical characteristics defining fluid flow, and wherein said memory is used to store said physical characteristic.
4. The device of claim 3 further comprising a characteristic sensor adapted to sense one of said characteristics.
5. The device of claim 3 wherein said selector is adapted to select one of said physical characteristics.
6. The device of claim 1 wherein said profiles define a fluid characteristic of said fluid.
7. The device of claim 6 wherein said fluid characteristic is selected from a fluid viscosity, fluid specific weight and fluid temperature.

8. An automatic injection device comprising:

a syringe having syringe characteristics and adapted to hold a fluid;

a plunger arranged to reciprocate in said syringe to effect fluid flow in and out of said syringe;

a driver coupled to said plunger;

a controller adapted to generate control commands for said driver to operate said plunger in accordance with a preselected profile;

a memory arranged to store a plurality of profiles; and

a selector arranged to select said preselected profile from said memory.

9. The automatic injection device of claim 8 wherein said preselected profile defines a time dependent sequence of operation during which fluid flows from said syringe at predetermined rates.

10. The automatic injection device of claim 9 further comprising a pressure sensor adapted to measure a fluid pressure associated with the fluid from said syringe, and wherein said controller is adapted to control the fluid flow in accordance with said fluid pressure.

11. The automatic injection device of claim 10 wherein said profile includes a fluid pressure limit and wherein said controller is adapted to limit said fluid rate in accordance with said fluid pressure limit.

12. The automatic injection device of claim 8 further comprising a needle shaped to be inserted in tissues and a tube coupling said syringe to said needle.

13. The automatic injection device of claim 12 wherein said needle is defined by a needle size, wherein said memory includes a plurality of needle sizes, and wherein said selector is arranged for the selection of the needle size from said memory.

14. The automatic injection device of claim 12 wherein said tube is defined by a tube size, wherein said memory includes a plurality of tube sizes and said selector is arranged for the selection of the tube size from said memory.

15. The automatic injection device of claim 12 wherein said syringe is defined by a syringe size and type, wherein said memory includes a plurality of syringe sizes and types and wherein selector is arranged for the selection of the syringe size and type.

16. A method of injecting a fluid into a patient using an automatic injection device having a fluid source, and a pump for selectively delivering fluid from said source to said patient, said device further including a memory with a profiles, to said patient comprising:

selecting a profile from said memory; and

delivering fluid to the patient in accordance with said profile.

17. The method of claim 16 wherein said device includes a pressure sensor detecting a fluid pressure, further comprising:

measuring a current fluid pressure; and

controlling fluid flow in accordance with said fluid pressure.

18. The method of claim 16 further comprising a delivery member adapted to deliver said fluid and including a syringe, a tube and a needle having respective syringe, tube and needle sizes, further comprising selecting said syringe, tube and needle size prior to the delivery of said fluid.

19. The method of claim 18 wherein said sizes are selected manually.

20. The method of claim 19 wherein at least one of said sizes is stored in the memory, and wherein said one size is selected from said memory.

21. The method of claim 18 wherein tube size includes one of a tube length and tube inner diameter.

22. The method of claim 18 wherein said needle size includes one of a needle length and a needle diameter.

23. The method of claim 18 wherein said syringe size includes one of syringe type and a syringe size.